

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A method of forming a structural window panel for an airborne mobile platform, comprising:

using a plurality of non-fibrous, metal sheets to form a frame structure, wherein the metal sheets define an opening;

providing a plurality of layers of generally optically transparent fiber pre-impregnated resin tape, where a resin of the tape comprises an aliphatic epoxy resin resistant to shrinkage, and has an index of refraction that generally matches an index of refraction of a plurality of fibers of said tape;

interleaving said plurality of layers of generally optically transparent, fiber pre-impregnated resin tape between the metal sheets to substantially cover an entire surface portion of each one of the metal sheets and to fill the opening, the layers of pre-impregnated resin tape extending substantially to outer peripheral edges of the metal sheets;

heating the metal sheets and the fiber pre-impregnated resin tape layers as a unitary assembly within a tool such that the resin in each said pre-impregnated tape layer melts and substantially covers the metal sheets and fills the opening, said layers of optically transparent fiber pre-impregnated resin tape, said metal sheets and said aliphatic epoxy resin imparting ~~and without requiring shrinkage of the pre-~~

~~impregnated resin tape layers and the resin to impart a needed degree of structural strength to the window panel; and~~

once cured, the generally transparent, fiber pre-impregnated resin tape layers ~~form~~ and metal sheets form a structural panel having a see-through window portion in the frame structure while covering substantially said metal sheets.

2. (Cancelled)

3. (Previously Presented) The method of claim 1, wherein the fiber pre-impregnated resin tape layers each comprises a plurality of fibers impressed into a resin tape.

4. (Original) The method of claim 3, wherein the fibers are comprised of fiberglass.

5. (Cancelled).

6. (Cancelled)

7. (Previously Presented) The method of claim 1, wherein each said metal sheet comprises a plurality of metal foil strips.

8. (Cancelled)

9. (Previously Presented) The method of claim 1, wherein each said metal sheet is comprised of aluminum.

10. (Previously Presented) The method of claim 1, wherein each said metal sheet is comprised of titanium.

11. (Previously Presented) The method of claim 1, wherein each said metal sheet forms an opening, said openings corresponding to a window.

12. (Original) The method of claim 1, wherein the fiber pre-impregnated resin tape has a width of approximately 1/8" (3.175 mm) to about 12" (304.8 mm).

13. (Currently Amended) A method of manufacturing a fuselage having a transparent window skin panel for use with an airborne mobile platform, comprising:

providing a tool;

providing a pre-impregnated resin tape comprised of a plurality of fibers ~~impressed into~~ impregnated with a shrinkage resistant, transparent aliphatic epoxy resin, and where said plurality of fibers has an index of refraction that generally matches an index of refraction of said aliphatic epoxy resin of said tape;

providing a non-fibrous, metal sheet having a plurality of spaced apart openings formed therein;

layering the pre-impregnated resin tape and the metal sheet onto the tool such that the metal sheet and the pre-impregnated resin tape are aligned one atop the other, such that the pre-impregnated resin tape completely covers the openings and overlays substantially an entire outer surface of the metal sheet;

heating the tool, the metal sheet, and the pre-impregnated resin tape such that the resin flows to substantially cover an entirety of the metal sheet and the fibers, the resin and fibers being substantially transparent to form a plurality of see-through window portions in the skin panel in the spaced apart openings, ~~without requiring shrinkage to impart a needed degree of structural strength for the skin panel;~~

removing the skin panel from the tool and securing it to a portion of a fuselage of said airborne mobile platform.

14. (Cancelled)

15. (Previously Presented) The method of manufacturing a transparent window skin panel of claim 13, wherein providing a pre-impregnated resin tape, providing a metal sheet, and layering the pre-impregnated resin tape and the metal sheet onto the tool comprises using a plurality of metal sheets and a plurality of layers of pre-impregnated resin tape, and arranging the metal sheets and layers of pre-impregnated resin tapes in alternating layers.

16. (Cancelled)

17. (Previously Presented) The method of manufacturing a transparent window skin panel of claim 13, wherein applying the pre-impregnated resin tape within any given layer comprises sandwiching a plurality of fiber pre-impregnated resin tape layers one adjacent another to fully cover the metal and to fully fill the openings in the metal sheet.

18. (Cancelled)

19. (Cancelled)

20. (Previously Presented) The method of manufacturing a transparent window skin panel of claim 13, wherein the metal sheet is comprised of aluminum.

21. (Previously Presented) The method of manufacturing a transparent window skin panel of claim 13, wherein the metal sheet is comprised of titanium.

22. (Original) The method of manufacturing a transparent window skin panel of claim 13, wherein the fibers are comprised of fiberglass.

23. - 24 (Cancelled)

25. (Original) The method of manufacturing a transparent window skin panel of claim 13, wherein the metal sheet comprises a plurality of metal foil strips.

26. – 28 (Cancelled)

29. (Original) The method of manufacturing a transparent window skin panel of claim 13, wherein the pre-impregnated resin tape has a width of approximately 1/8" (3.175 mm) to about 12" (304.8 mm).

30. (Previously Presented) The method of manufacturing a transparent window skin panel of claim 13, further comprising placing a caul plate atop the metal sheet, the pre-impregnated resin tape, and the tool.

31. (Previously Presented) The method of manufacturing a transparent window skin panel of claim 30, further comprising placing the caul plate, the metal sheet, the pre-impregnated resin tape, and the tool into a vacuum bag and removing the air therein.

32. (Previously Presented) The method of manufacturing a transparent window skin panel of claim 13, wherein heating the tool, the metal sheet, and the pre-impregnated resin tape comprises using an autoclave.

33. (Previously Presented) The method of manufacturing a transparent window skin panel of claim 29, wherein the autoclave heats the tool, the metal sheet, and the pre-impregnated resin tape to approximately 350 degrees Fahrenheit under approximately 100 to 200 psi of pressure.